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B60L 53/64; B60L 53/65; B60L 53/66;
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21157483.5 / 3 922 506
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(54) **SYSTEM AND METHOD FOR CORRELATING CHARGING BALANCING BETWEEN MULTIPLE EV CHARGING STATIONS USING MOBILE DEVICES**

(57) A method of controlling reservations at an electric vehicle charging station. The method comprises sending, from a mobile device, a charge transfer request for the electric vehicle of a first user at an electric vehicle charging station to a cloud server, wherein a user of the mobile device is associated with the electric vehicle to be charged, wherein the charge transfer request relayed from the mobile device includes identification information and funding credit account information. In response to receiving a message from the cloud server the charge transfer request is authorized using identification information and credit account information received from the mobile device, and the authorized charging control signal is sent from the mobile device to the electric vehicle to enable charging the electric vehicle of the first user at the electric vehicle charging station for a first charging session having a scheduled end time. The method further comprises, reserving a second charging session for an

electric vehicle of a second user, the second charging session being scheduled to have a scheduled start time at or after the scheduled end time of the first charging session, and facilitating communication with the first user and the second user to modify the scheduled end time of the first charging session for the first user an amount of time and modify the scheduled start time of the second charging session of the second user an amount of time.

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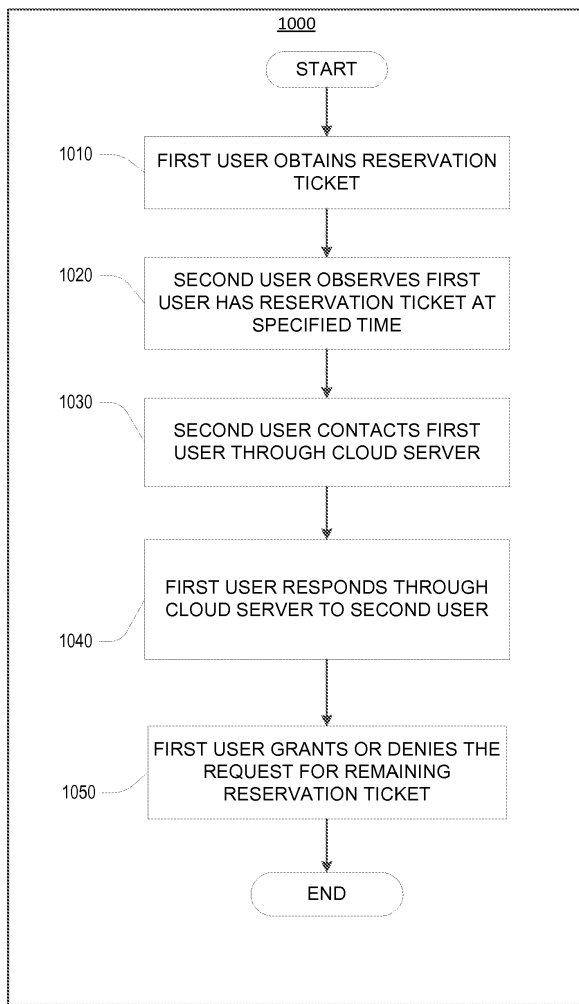


Fig. 10

(52) Cooperative Patent Classification (CPC): (Cont.)

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Y02T 10/7072; Y02T 10/72; Y02T 90/12;

Y02T 90/14; Y02T 90/16; Y02T 90/167;

Y04S 10/126; Y04S 30/14



EUROPEAN SEARCH REPORT

Application Number

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2011/193522 A1 (UESUGI KENICHIRO [JP]) 11 August 2011 (2011-08-11) * paragraphs [0065], [0081], [0083], [0140] - [0142], [0149], [0169], [0177]; figures 6, 7, 12 * -----	1-7	INV. B60L53/66 H02J7/00 H01M10/46 G06Q50/30
			TECHNICAL FIELDS SEARCHED (IPC)
			B60L
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		17 June 2023	Bellatalla, Filippo
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-7

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-7

**Method of controlling reservations at an electric vehicle
charging station.**

2. claims: 8-15

**Method of queuing available charging spaces at an electric
vehicle charging station.**

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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17-06-2023

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2011193522 A1	11-08-2011	JP 2011164771 A US 2011193522 A1	25-08-2011 11-08-2011
